

HOWREY & SIMON

January 20, 1999

Attorneys at Law  
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Washington, DC 20004-2402  
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FAX (202) 383-6610

**Box Patent Application**



Assistant Commissioner for Patents  
Washington, D.C. 20231



Re: U.S. Non-Provisional Utility Patent Application  
Appl. No.: To be assigned  
Filed: Herewith  
For: **Nucleic Acid Molecules and Other Molecules Associated with the  
Tetrapyrrole Pathway**  
Inventors: Claire A. Cajacob and JingDong Liu  
Ref. No.: 04983.0025.US01/38-21 (15090)B

Sir:

The following documents are forwarded herewith for appropriate action by the U.S.  
Patent and Trademark Office:

1. Utility Patent Application Transmittal (PTO/SB/05);
2. Form PTO-1082;
3. U.S. Utility Patent Application entitled:

**Nucleic Acid Molecules and Other Molecules Associated with the  
Tetrapyrrole Pathway**

and naming as inventors:

**Claire A. Cajacob and Jingdong Liu**

the application consisting of:

- a. A specification containing:
  - (i) 259 pages of description prior to the claims;
  - (ii) 243 pages of a sequence listing;

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- (iii) 5 pages of claims (9 claims);
- (iv) a one (1) page abstract;
4. A computer readable disk copy of the sequence listing; and
5. Statement Regarding Sequence Submission;
6. Information Disclosure Statement;
7. Form PTO-1449 (12 pages) with 36 accompanying documents; and
8. Two (2) return postcards.

It is respectfully requested that, of the two attached postcards, one be stamped with the filing date of these documents and returned to our courier, and the other, prepaid postcard, be stamped with the filing date and unofficial application number and returned as soon as possible.

This application claims priority under 35 U.S.C §119(e) and/or 35 U.S.C §120 of applications No. 60/067000 filed November 24, 1997, No. 60/069472 filed December 9, 1997, No. 60/072,027 filed January 21, 1998, No. 60/074,201 filed February 10, 1998, No. 60/074282 filed February 10, 1998, No. 60/074280 filed February 10, 1998, No. 60/074281 filed February 10, 1998, No. 60/074566 filed February 12, 1998, No. 60/074567 filed February 12, 1998, No. 60/074565 filed February 12, 1998, No. 60/075462 filed February 19, 1998, No. 60/075459 filed February 19, 1998, No. 60/075461 filed February 19, 1998, No. 60/075464 filed February 19, 1998, No. 60/075460 filed February 19, 1998, No. 60/075463 filed February 19, 1998, No. 60/077231 filed March 9, 1998, No. 60/077229 filed March 9, 1998, No. 60/077230 filed March 9, 1998, No. 60/078368 filed March 18, 1998, No. 60/080844 filed April 7, 1998, No. 60/083067 filed April 27, 1998, No. 60/083387 filed April 29, 1998, No. 60/083388 filed April 29, 1998, No. 60/083389 filed April 29, 1998, No. 60/085224 filed May 13, 1998, No. 60/085223 filed May 13, 1998, No. 60/085222 filed May 13, 1998, No. 60/086186 filed May 21, 1998, No. 60/086187 filed May 21, 1998, No. 60/086185 filed May 21, 1998, No. 60/086184 filed May 21, 1998, No. 60/086183 filed May 21, 1998, No. 60/086188 filed May 21, 1998, No. 60/089,524 filed June 16, 1998, No. 60/089,810 filed June 18, 1998, No. 60/089,814 filed June 18, 1998, No. 60/091,035 filed June 29, 1998, No. 60/091,405 filed June 30, 1998, "Nucleic Acid Molecules and Other Molecules Associated with the Plant Sugar and Nitrogen Transporters Pathway" docket No. 38-21(15412)A filed June 30, 1998, No. 60/099670 filed September 9, 1998, No. 60/099697 filed September 9, 1998, No. 60/100674 filed September 16, 1998, No. 60/100672

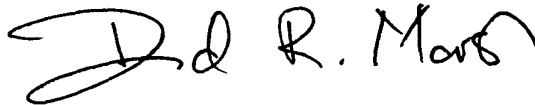
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Assistant Commissioner for Patents  
January 20, 1999  
Page 3

filed September 16, 1998, No. 60/101,130 filed September 21, 1998, No. 60/101,508 filed September 22, 1998, No. 60/101,344 filed September 22, 1998, No. 60/101,347 filed September 22, 1998, No. 60/101,343 filed September 22, 1998, No. 60/104,128 filed October 13, 1998, No. 60/104,127 filed October 13, 1998, No. 60/109,018 filed November 18, 1998, No. 60/108,996 filed November 18, 1998, "Nucleic Acid Molecules and Other Molecules Associated With Plants" docket No. 38-21(15075)B filed November 24, 1998, No. 09/210,297 filed December 8, 1998, "Nucleic Acid Molecules and Other Molecules Associated with Plants" docket No. 38-21(15668)A filed December 11, 1998 and No. 60/113,224 filed December 22, 1998.

In accordance with 37 C.F.R. § 1.821(f), the paper copy of the sequence listing and the computer readable copy of the sequence listing submitted herewith in the above application are the same.

Respectfully submitted,



David R. Marsh (Reg. No. 41,408)

Enclosures

0923318-01099

**HOWREY & SIMON**  
**Box No. 34**  
**1299 Pennsylvania Avenue, N.W.**  
**Washington, D.C. 20004-2402**  
**(202) 783-0800**

Attorney Docket No. 04983.0025.US01/38-21 (15090)B

ASSISTANT COMMISSIONER FOR PATENTS  
 Washington, D.C. 20231

Sir:

Transmitted herewith for filing is the patent application of

Inventors: Claire A. Cajacob and Jingdong Liu

For: Nucleic Acid Molecules and Other Molecules Associated with the Tetrapyrrole Pathway

An executed Declaration for Patent Application is **not** enclosed; therefore, no fee is being enclosed. This page is being submitted for information purposes only.

Enclosed are:

- \_\_\_\_\_ sheets of informal drawings.
- An assignment of the invention to \_\_\_\_\_
- Form PTO-1595.
- A certified copy of a \_\_\_\_\_ application.
- An associate power of attorney.
- A verified statement to establish small entity status under 37 CFR 1.9 and 37 CFR 1.27.
- Executed Power of Attorney from Assignee
- Executed Declaration for Patent Application.

The filing fee has been calculated as shown below:

(Col. 1)		(Col. 2)	SMALL ENTITY		OR	OTHER THAN A SMALL ENTITY	
FOR	NO. FILED	NO. EXTRA	RATE	FEE		RATE	FEE
BASIC FEE				\$ 395.00	OR		\$760.00
TOTAL CLAIMS	9 -20 =	* 0	x 9 =		OR	x 18 =	0.00
INDEP. CLAIMS	4 -3 =	* 1	x 39 =		OR	1 x 78 =	78.00
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENTED			+ 130 =		OR	+ 260 =	0.00
			TOTAL		OR	TOTAL	\$838.00

\*If the difference in Col. 1 is less than zero, enter "0" in Col. 2

— Please charge my Deposit Account No. 08-3038 in the amount of \$ \_\_\_\_\_. A duplicate copy of this sheet is attached.

— A check in the amount of \$ \_\_\_\_\_ to cover the \_\_\_\_\_ fee is enclosed.

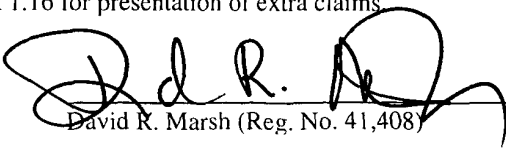
— The U.S. Patent and Trademark Office is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 08-3038. A duplicate copy of this sheet is attached.

- Any additional filing fees required under 37 CFR 1.16.
- Any patent application processing fees under 37 CFR 1.17.

— The U.S. Patent and Trademark Office is hereby authorized to charge payment of the following fees during the pendency of this application or credit any overpayment to Deposit Account No. 08-3038. A duplicate copy of this sheet is enclosed.

- Any patent application processing fees under 37 CFR 1.17
- The issue fee set in 37 CFR 1.18 at or before mailing of the Notice of Allowance, pursuant to 37 CFR 1.311(b).
- Any filing fees under 37 CFR 1.16 for presentation of extra claims

Date January 20, 1999

  
 David R. Marsh (Reg. No. 41,408)

Please type a plus-sign (+) inside this box → ☐

PTO/SB/05 (2/98)

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**UTILITY  
PATENT APPLICATION  
TRANSMITTAL**

for new nonprovisional applications under 37 CFR 1.53(b)(1)

Attorney Docket No. 04983.0025.US01/38-21 (15090)B

First Named Inventor or Application Identifier CAJACOB

Title Nucleic Acid Molecules And Other Molecules Associated With the Tetrapyrrole Pathway

Express Mail Label No.

**APPLICATION ELEMENTS**

MPEP chapter 600 concerning utility patent application contents

ADDRESS TO: Assistant Commissioner for Patents  
Box Patent Application  
Washington, DC 20231

1. ☒ \*Fee Transmittal Form (Form PTO-1082)  
(Submit an original and a duplicate for fee processing)
2. ☒ Specification [Total Pages 265 ]  
(preferred arrangement set forth below)
- Descriptive title of the Invention
  - Cross References to Related Applications
  - Statement Regarding Fed sponsored R&D
  - Reference to Microfiche Appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claims
  - Abstract of the Disclosure
- ☐ Drawing(s) (35 USC 113) [Total Sheets ]
- ☐ Oath or Declaration [Total Pages ]
- a. ☐ Newly executed (original or copy)
- b. ☐ Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 17 completed)  
[Note Box 5 below]
- i. ☐ **DELETION OF INVENTOR(S)**  
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
5. ☐ Incorporation By Reference (useable if Box 4b is checked)  
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

6. ☐ Microfiche Computer Program (Appendix)
7. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
- a. ☒ Computer Readable Copy
- b. ☒ Paper Copy (identical to computer copy)
- c. ☒ Statement verifying identity of above copies

**ACCOMPANYING APPLICATION PARTS**

8. ☐ Assignment Papers (cover sheet & document(s))
9. ☐ 37 CFR 3.73(b) Statement ☐ Power of Attorney  
(when there is an assignee)
10. ☐ English Translation Document (if applicable)
11. ☒ Information Disclosure Statement (IDS)/PTO-1449 ☒ Copies of IDS Citations
12. ☐ Preliminary Amendment
13. ☒ Return Receipt Postcard (MPEP 503) (Two)  
(should be specifically itemized)
14. ☐ \*Small Entity Statement(s) ☐ Statement filed in prior application, Status still proper and desired
15. ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)
16. ☐ Other:

\*NOTE FOR ITEMS 1 & 14: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27). EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

**17. If a CONTINUING APPLICATION, check appropriate box and supply the requisite information:**

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: /

Prior Application Information: Examiner:

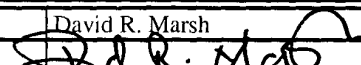
Group/Art Unit:

**18. CORRESPONDENCE ADDRESS**

☐ Customer Number or Bar Code Label

or ☒ Correspondence address below

(Insert Customer No. or Attach bar code label here)

NAME	David R. Marsh, Esq. HOWREY & SIMON				
ADDRESS	Box No. 34 1299 Pennsylvania Avenue, N.W.				
CITY	Washington	STATE	DC	ZIP CODE	20004-2402
COUNTRY	US	TELEPHONE	202-783-0800	FAX	202-383-7195
Name (Print/Type)	David R. Marsh		Registration No. (Attorney/Agent)	41,408	
Signature			Date	January 20, 1999	

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.